

**In the Claims:**

This listing of claims will replace all prior versions, and listing, of claims in the application:

1           1.       (currently amended) A digital image sensor, comprising:  
2                   a first two-color photo-detector sensitive to a first total wavelength range, said  
3 first two-color photo-detector having a first photo-detector element capable of absorbing light  
4 within a first range of wavelengths of said first total wavelength range and a second photo-  
5 detector element capable of absorbing light within a second range of wavelengths of said first  
6 total wavelength range, said first photo-detector element being in an elevated relation with  
7 said second photo-detector element, said first photo-detector element being electrically  
8 isolated from said second photo-detector element; and  
9                   a second two-color photo-detector having a third photo-detector element in an  
10 elevated relation with a fourth photo-detector element, said third photo-detector element  
11 being electrically isolated from said fourth photo-detector element, said second two-color  
12 photo-detector being sensitive to a second total wavelength range different from said first  
13 total wavelength range.

1           2.       (original)       The sensor of Claim 1, further comprising:  
2                   a substrate, said second photo-detector element being formed within said  
3 substrate.

1           3.       (original)     The sensor of Claim 2, further comprising:  
2                   a dielectric layer between said first photo-detector element and said second  
3 photo-detector element, said dielectric layer electrically isolating said first photo-detector  
4 element from said second photo-detector element.

1           4.       (original)     The sensor of Claim 1, wherein said first photo-detector  
2 element is formed of amorphous silicon having a thickness selected to absorb light within  
3 said first range of wavelengths and pass light within said second range of wavelengths, said  
4 second photo-detector detecting light within said second range of wavelengths passed by said  
5 first photo-detector element.

1           5.       (original)     The sensor of Claim 1, wherein said first and second photo-  
2 detector elements are photodiodes.

1           6.       (original)     The sensor of Claim 5, wherein said photodiodes are PIN  
2 photodiodes.

1           7.       (original)     The sensor of Claim 1, further comprising:  
2                   a color filter in an elevated relation with said first photo-detector element, said  
3 color filter absorbing light within a third range of wavelengths and passing light within said  
4 first and second ranges of wavelengths.

1           8.       (original)     The sensor of Claim 7, further comprising:  
2                   a transparent metal conductor layer between said color filter and said first  
3 photo-detector element.

1           9.       (original)     The sensor of Claim 1, further comprising:  
2                   circuitry for driving said first photo-detector element and said second photo-  
3 detector element, said first photo-detector element being in an elevated relation with said  
4 circuitry.

1           10.     (canceled)

1           11.     (currently amended)   The sensor of Claim ~~10~~ 1, wherein said first two-color  
2 photo-detector further comprises a first color filter in an elevated relation with said first  
3 photo-detector element of said first two-color photo-detector, said first color filter absorbing  
4 light within a third range of wavelengths and passing light within said first and second ranges  
5 of wavelengths, said second two-color photo-detector further comprising a second color filter  
6 in an elevated relation with said third photo-detector element of said second two-color filter,  
7 said second color filter absorbing light within either said first or second ranges of  
8 wavelengths, passing light within said third range of wavelengths and passing light within  
9 either said first or second ranges of wavelengths not absorbed by said second color filter.

1           12.     (currently amended)   The sensor of Claim ~~10~~ 1, wherein said third photo-  
2     detector element is capable of accumulating charge upon reception of light within a third  
3     range of wavelengths and said fourth photo-detector element is capable of accumulating  
4     charge upon reception of light within a fourth range of wavelengths.

1           13.     (original)        The sensor of Claim 12, wherein said first photo-detector  
2     element produces a first color value, said second photo-detector element produces a second  
3     color value, said third photo-detector element produces a third color value and said fourth  
4     photo-detector element produces a fourth color value, and further comprising:

5                 a third two-color photo-detector having a fifth photo-detector element in an  
6     elevated relation with a sixth photo-detector element, said fifth photo-detector element being  
7     electrically isolated from said sixth photo-detector element, said fifth photo-detector element  
8     being capable of absorbing light within said first range of wavelengths and producing a fifth  
9     color value, said sixth photo-detector element being capable of absorbing light within said  
10    second range of wavelengths and producing a sixth color value; and

11                a fourth two-color photo-detector having a seventh photo-detector element in  
12    an elevated relation with an eighth photo-detector element, said seventh photo-detector  
13    element being electrically isolated from said eighth photo-detector element, said seventh  
14    photo-detector element being capable of absorbing light within said first range of  
15    wavelengths and producing a seventh color value, said eighth photo-detector element being  
16    capable of absorbing light within said second range of wavelengths and producing an eighth  
17    color value.

1           14.     (currently amended) A digital image sensor, comprising:

2                     a first two-color photo-detector sensitive to a first total wavelength range, said  
3 first two-color photo-detector having a first photo-detector element capable of absorbing light  
4 within a first range of wavelengths of said first total wavelength range and a second photo-  
5 detector element capable of absorbing light within a second range of wavelengths of said first  
6 total wavelength range, said first photo-detector element being in an elevated relation with  
7 said second photo-detector element; ~~and~~

8                     a first dielectric layer between said first photo-detector element and said  
9 second photo-detector element;

10                    a second two-color photo-detector having a third photo-detector element in an  
11 elevated relation with a fourth photo-detector element, said second two-color photo-detector  
12 being sensitive to a second total wavelength range different from said first total wavelength  
13 range; and

14                    a second dielectric layer between said third photo-detector element and said  
15 fourth photo-detector element.

1           15.     (original)     The sensor of Claim 14, further comprising:

2                     a substrate, said second photo-detector element being formed within said  
3 substrate.

1           16.     (original)     The sensor of Claim 14, wherein said first photo-detector  
2 element is formed of amorphous silicon having a thickness selected to absorb light within  
3 said first range of wavelengths, said second photo-detector detecting light within said second  
4 range of wavelengths passed by said first photo-detector element.

1           17.   (original)    The sensor of Claim 14, further comprising:  
2                   a color filter in an elevated relation with said first photo-detector element, said  
3 color filter absorbing light within a third range of wavelengths and passing light within said  
4 first and second ranges of wavelengths.

1           18.   (original)    The sensor of Claim 17, further comprising:  
2                   a transparent metal conductor layer between said color filter and said first  
3 photo-detector element.

1           19.   (original)    The sensor of Claim 14, further comprising:  
2                   circuitry for driving said first photo-detector element and said second photo-  
3 detector element, said first photo-detector element being in an elevated relation with said  
4 circuitry.

1           20-26. (canceled)

1           27.   (New) The sensor of Claim 1, wherein said first photo-detector element is  
2 formed of amorphous silicon having a first thickness selected to absorb light within said first  
3 range of wavelengths and said third photo-detector element is formed of amorphous silicon  
4 having a second thickness selected to absorb light within a third range of wavelengths.

1           28.   (New) The sensor of Claim 14, wherein said first photo-detector element is  
2   formed of amorphous silicon having a first thickness selected to absorb light within said first  
3   range of wavelengths and said third photo-detector element is formed of amorphous silicon  
4   having a second thickness selected to absorb light within a third range of wavelengths.